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09/521,852	03/09/2000	Kiyoji Hane	Q58163	2975

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Sughrue Mion Zinn Macpeak & Seas PLLC
2100 Pennsylvania Avenue N W
Washington, DC 20037-3202

EXAMINER	
REITZ, KARL	

ART UNIT	PAPER NUMBER
2624	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/521,852	HANE ET AL.	
	Examiner	Art Unit	
	Karl R. Reitz	2624	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 March 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 2-9 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 2-9 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *17 July 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Response has been made of record. Claim 1 is cancelled and claims 2-9 are pending.

Response to Arguments

2. Applicant's arguments, see page 7 line 18 -- page 8 line 19, filed on 12 March 2004, with respect to the rejection(s)of claim(s) 2-9 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground of rejection is made in view of a newly found prior art reference.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

4. Claim 6 is rejected under 35 U.S.C. 102(e) as being anticipated by Okazawa (5,937,148).

5. In accordance with claim 6, Okazawa discloses an electronic printing apparatus 100-1 (figure 1), which receives and prints image data; in Okazawa's system, the controller section of the apparatus receives printing data and the engine section of the apparatus prints the image data (col. 4 lines 9-16).

6. Okazawa further discloses that the apparatus contains a print controller 110 (figure 1) for receiving image data (col. 4 lines 9-10) and controlling print sequence; in

Okazawa's system, the controller section 110 has a program for controlling the entire apparatus (col. 4 lines 33-34).

7. Okazawa further discloses that the apparatus contains a print engine 120 (figure 1 and col. 4 lines 6-8). Okazawa further discloses that the printing engine prints images on a printing medium in accordance with a signal corresponding to the image data supplied by the print controller (col. 4 lines 58-61).

8. Okazawa further discloses that the print controller 110 (figure 1) contains a CPU 114 for executing required programs (col. 6 lines 57-60).

9. Okazawa further discloses an interface circuit 150 for receiving image data; in Okazawa's system the interface section 150 receives image data from hosts 130-1 or 130-2 (col. 4 lines 54-58).

10. Okazawa further discloses that the print controller is able to operate in a normal operating mode and an energy saving mode, which uses less energy than the normal mode; in Okazawa's system an interface processor 111 (figure 1) controls power to the controller and the engine, and is able to limit power supplied to the controller and the engine in a sleep state (col. 4 line 67 – col. 5 line 6). Okazawa further discloses that in energy saving mode, the interface circuit 111 is maintained in normal mode, while CPU 114 enters energy saving mode; in Okazawa's system, only the interface processor 111 and the RAM 116 are maintained in normal more while the remaining components are transferred to energy saving mode (col. 7 lines 36-38).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. Claims 2-5 and 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okazawa in view of Spackman (5,714,975) in further view of JP 64-20185.

13. In accordance with claim 2, Okazawa discloses an electronic printing apparatus 100-1 (figure 1), which receives and prints image data; in Okazawa's system, the controller section of the apparatus receives printing data and the engine section of the apparatus prints the image data (col. 4 lines 9-16).

14. Okazawa further discloses that the apparatus contains a print controller 110 (figure 1) for receiving image data (col. 4 lines 9-10) and controlling print sequence; in Okazawa's system, the controller section 110 has a program for controlling the entire apparatus (col. 4 lines 33-34).

15. Okazawa further discloses that the controller contains image memory (unnumbered) for storing image data (col. 4 lines 26-27).

16. Okazawa further discloses that the apparatus contains a print engine 120 (figure 1 and col. 4 lines 6-8). The printing engine prints images on a printing medium in accordance with a signal corresponding to the image data supplied by the print controller (col. 4 lines 58-61).

17. Okazawa further discloses that the print controller is able to operate in a normal operating mode and an energy saving mode, which uses less energy than the normal mode; in Okazawa's system an interface processor 111 (figure 1) controls power to the controller and the engine, and is able to limit power supplied to the controller and the engine in a sleep state (col. 4 line 67 – col. 5 line 6).

18. Okazawa further discloses that in the normal mode, the print controller stores image data in image memory (unnumbered) (col. 4 lines 26-27).

19. Okazawa further discloses that in the energy saving mode, the print controller stores a recovery program used to return to normal mode in the RAM 116 (figure 1); in Okazawa's system, only the interface processor 111 and the RAM 116 receive power during the sleep mode (col. 7 lines 36-39), thus the RAM 116 must store the program that returns the apparatus to the normal operating mode, since it is the only available memory. During sleep mode, the interface processor 111 performs control processing (col. 7 lines 40-41). It is inherent that the processing performed by the interface processor 111 is performed through the use of information stored in RAM 116, since a program is required to control the operation of the processor, and the only memory that is available to store a program (i.e. the only memory that is receiving power) is RAM 116.

20. However, although Okazawa discloses that RAM 116 temporarily stores "print data," since in Okazawa's system, a "reception buffer ensured in the RAM 116" is used to store print data during writing processing (col. 7 lines 6-9) and that the RAM 116 holds a recovery program since it is the only memory available in the energy saving

mode (as described in paragraph 19), these limitations are implicit and therefore Okazawa does not disclose expressly that the recovery program is loaded into the image memory along with image data.

21. Spackman expressly discloses storing image data and operational programs together in one unified memory 6 (col. 4 lines 19-22) in order to optimize the usage of the memory. Further, JP 64-20185 expressly discloses that when transferring to energy saving mode, the CPU transfers a recovery program stored in the program memory (ROM) to the RAM, which receives power during energy saving mode (page 1 line 26 – page 2 line 3).

22. Okazawa, Spackman and JP 64-20185 are combinable because they are from the same field of endeavor, namely image-forming apparatuses.

23. Therefore, it would have been obvious to a person of ordinary skill in the art to provide image data and operational programs in the system to one unified memory when entering energy saving mode (thus having a memory which stores programs and image data, as disclosed by Spackman, and which receives a recovery program from program memory when entering energy saving mode, as disclosed by JP 64-20185), thereby supplying power only to this new unified image memory and the interface processor 111 during energy saving mode, as suggested by Okazawa (col. 7 lines 36-38).

24. The motivation for doing so would have been to operate only the image memory and the interface processor 111 in the energy saving mode, thus reducing power consumption as compared with maintain power to other portions of the controller section

(Okazawa: col. 7 lines 44-46) and allowing the apparatus to have the program necessary for recovery in an area that has not been deactivated, while allowing the printing device to store the image data being transmitted immediately in the image memory, even if the apparatus is in energy saving mode, thereby a) freeing the transmitting device sooner and b) beginning the printing process sooner.

25. In accordance with claim 3, Okazawa further discloses that the print controller 110 (figure 1) contains a CPU 114 for executing required programs (col. 6 lines 57-60).

26. Okazawa further discloses an interface circuit 150 for receiving image data and interrupts; in Okazawa's system the interface section 150 receives image data from hosts 130-1 or 130-2 and upon receipt of image data, an interrupt signal is generated from the interface processor 111 in the interface section 150 (col. 4 lines 54-58 and col. 7 lines 4-6).

27. Okazawa further discloses a program memory (ROM 115), in which programs for controlling printing and recovery are stored (col. 5 lines 59-61).

28. Okazawa further discloses a band memory, as image memory (unnumbered), in which image data to be printed are stored (col. 4 lines 26-27).

29. Okazawa further discloses a control circuit, RAM 116, which is connected to the CPU, the interface circuit, and the program memory, via bus 118 (figure 1).

30. Okazawa further discloses, that when shifting to power saving mode, the recovery program in program memory is loaded in RAM 116; as described in paragraph 19, in Okazawa's system, only the interface processor 111 and the RAM 116 receive power during the sleep mode, thus RAM 116 must contain the recovery program (col. 7

lines 36-39). During sleep mode, the interface processor 111 performs control processing (col. 7 lines 40-41). It would be obvious to a person of ordinary skill in the art that the processing performed by the interface processor 111 is performed through the use of information stored in RAM 116, since a program is required to control the operation of the processor, and the only memory that is available to store a program (i.e. the only memory that is receiving power) is RAM 116.

31. Okazawa further discloses, maintaining energy to only the control circuit, RAM 116, the interface circuit, and interface processor 111, during energy saving mode, while the remaining components are switched off (col. 7 lines 36-38).

32. However, although implied as described above, Okazawa does not disclose expressly that when shifting to energy saving mode, a recovery program is transferred from the ROM 115 to the RAM 116, or that the control circuit incorporates the image memory.

33. JP 64-20185 discloses, that when shifting to power saving mode, the recovery program in program memory is transferred from ROM and loaded in RAM (page 1 line 26 – page 2 line 3). Spackman discloses storing image data and operational programs together in one memory 6 (col. 4 lines 19-22), thus operating as a control circuit with image memory incorporated in RAM 6. Thus, from the combination of Okazawa, Spackman and JP 64-20185 the recovery program would be transferred from ROM 115 (of Okazawa) to the new unified image memory (as described by JP 64-20185), which contains both image data and program data (as disclosed by Spackman).

34. In accordance with claim 4, Okazawa discloses that programs for controlling the apparatus, thus including the interface control section, are stored in ROM 115 (col. 5 lines 59-61).

35. The combination of Okazawa, Spackman and JP 64-20185, as described above for claim 3, make obvious that when switching to energy saving mode, the program for controlling the interface circuit is transferred to image memory.

36. Okazawa further discloses that the recovery of the system be initiated in response to an interrupt received by the interface section (col. 7 lines 4-6 and col. 8 lines 11-19).

37. In accordance with claim 5, Okazawa discloses that when recovering to normal operating mode, part or all of the electronic parts that were operating in energy saving states return to normal state upon execution of the recovery program; in Okazawa's system, when recovering to normal mode, the interface processor 111 activates power to the control section 110, which activates the remaining components in accordance with the flow chart of figure 3 (col. 8 lines 17-22).

38. In accordance with claims 7-9, Okazawa discloses that in the energy saving mode, the print controller is permitted to store a recovery program used to return to normal mode in the RAM 116, which is an image memory (figure 1); in Okazawa's system, only the interface processor 111 and the RAM 116 receive power during the sleep mode (col. 7 lines 36-39), thus during sleep mode, control processing is performed by the interface processor 111 (col. 7 lines 40-41) through the use of information stored in RAM 116, as previously described (col. 7 lines 1-4).

39. Okazawa further discloses maintaining an interface circuit (interface processor 111) and a control circuit (RAM 116) in normal operating states, while the remainder of the components enter an energy saving mode (col. 7 lines 36-38).

40. Okazawa discloses effecting the recovery of CPU 114 to return to a normal mode from an energy saving mode following the receipt of an interrupt originating at an interface circuit and a control circuit; in Okazawa's system, only the interface processor 111 (interface circuit) and RAM 116 (control circuit) are maintain in normal operating mode while the remaining components are in an energy saving mode (col. 7 lines 36-38), upon receipt of printing data, the interface processor 111 generates an interrupt (col. 7 lines 4-5), when an interrupt is received while the apparatus is in a sleep mode (step 16 in figure 4), the interface processor 111 activates the controller section 110 which activates the remaining components (col. 8 lines 16-19).

41. Okazawa further discloses permitting the CPU to execute a recovery program; in Okazawa's system, when the interface processor 111 reactivates the control section 120, the CPU 114 executes the remaining recovery processes according to the flow chart of figure 3 (col. 8 lines 16-22 and col. 6 lines 57-61). The recovery program is stored in RAM 116, as previously described.

42. Okazawa further discloses shifting all the electronic parts that are in the power saving mode to normal operating mode by execution of the recovery operation; in Okazawa's system the interface processor 111 and the RAM 116 remain in normal operating mode, while the remainder of the components enter the energy saving mode (col. 7 lines 36-38), when an interrupt is received, as described above, the interface

processor 111 and the RAM 116 return the controller section 110 to normal operating mode (col. 17-19).

43. However, Okazawa does not disclose expressly that the RAM 116 is used as an image memory to store image data and that the recovery program is transferred from program memory to this image memory.

44. Spackman discloses storing image data and operational programs together in one memory 6 (col. 4 lines 19-22) in order to optimize memory usage. JP 64-20185 discloses that when transferring to energy saving mode, the CPU transfers a recovery program stored in the ROM to the RAM (page 1 line 26 – page 2 line 3).

45. Therefore, it would have been obvious to a person of ordinary skill in the art to transfer a recovery program from the ROM 115, of Okazawa's system, to the new unified image memory (from the combination of Okazawa, Spackman and JP 64-20185) when entering energy saving mode (thus having a memory which stores programs and image data, as disclosed by Spackman), thereby supplying power only to the unified image memory and the interface processor 111 during energy saving mode (col. 7 lines 36-38), thus saving energy and improving processing speed.

Contact Information

46. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl R. Reitz whose telephone number is (703) 305-8696. The examiner can normally be reached on Monday-Friday 8:00-4:30.

47. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David K. Moore can be reached on (703) 305-7452. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

48. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

KRR

David Moore

DAVID MOORE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600